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Editorial

In the last 6 months we have unfortunately been witnessing natural disasters of large scale on the territory of South-eastern Europe.

During May, in this area, the territory of Croatia, Bosnia and Herzegovina and Serbia have been struck by floods of unprecedented scale. The significant amount of constant rainfall in May has resulted in outpouring of the rivers Sava, Una, Vrbasa, Bosna and Drina which consequently resulted with catastrophic consequences for the population of Croatian Posavina, Bosnia, and Western Serbia. Many villages have been completely flooded, people lost their homes, their cattle, their property, and unfortunately, floods have also taken many human lives. While the water from the flooded area is slowly retrieving and leaves behind devastating scenes of destroyed villages, people are trying to return to their homes as soon as possible. Due to the fact that numerous households are oriented towards agriculture, the population of that area is faced with a difficult and uncertain future and we hope that the help from all of us and from the governments of the flooded countries will facilitate easier recovery of the population and the return to a "normal life" for as much as possible.

Even though the damage from floods is far greater due to the fact that human lives were at risk, the foresters from the territory of Slovenia and Croatia are still adding up damages in forest ecosystems that were caused by ice-breaks and floods at the beginning of February of this year. The ice storm, specifically, ice rain struck the territory of Slovenia and a part of Croatia (Gorski Kotar) on the night of the 1st February, and created an ice coat on branches and on tree tops, which consequently had catastrophic consequences on forest ecosystems. Due to pressure and weight of ice, practically whole stands have been destroyed, particularly beech stands in which the ice coat caused breaking of the entire tree crowns. Furthermore, the roads

covered by broken trees, destroyed and torn electric cables, knocked down transmission towers have resulted in terrifying apocalyptic scenes.

In order to apply to EU solidarity funds, it was necessary to assess the losses in the shortest period possible. The damage of forests and forest ecosystems in Slovenia has been assessed to 214 million € without VAT. It is assessed that 9.2 million m³ of timber volume on the area of 550 000 ha had been destroyed, which is double the amount of the total planned annual timber cuts (felling volume) of Slovenia. In Croatia, the ice-break has in the most part struck the area of Gorski Kotar (Primorje - Gorski Kotar County). According to the initial estimation, around 1.65 million m³ of timber volume on the area of 56 000 ha had been destroyed or damaged. Hence, compared to Slovenia, ice-breaks in Croatia had caused significantly less damage. However, at more or less the same time, specific areas in Croatia (Karlovačka County, Zagrebačka County and Sisačko-moslavačka County) had been affected by floods caused by abundant rainfall and water inflows from the Slovenian territory. The floods have activated torrents in forests and consequently caused significant damage on forest infrastructure, notably forest roads.

It is necessary to mention that apart from the economic function, the ice-breaks have completely ruined the aesthetic function of the destroyed forests. Furthermore, these natural catastrophes have also significantly violated forest ecosystem services. Consequently, a state of natural disaster has been declared in all disaster-affected areas in Croatia. Due to the fact that both ice-breaks and floods have affected forest ecosystems in five Croatian Counties at the same time, a team of experts from the Croatian Forest Research Institute and employees from the Croatian Forests have created a Framework for damage estimation of forest ecosystems after natural disasters (ice-

breaks, floods, torrents). The methodology and results, that is, the estimate of the damage have been presented in this number of the journal in the paper by Vuletic et al. By summarizing the damage estimation due to ice-breaks, floods and torrents, Vuletic et al., have reached an amount of around 940 million € without VAT. Furthermore, the paper also suggests measures for the recovery of affected forest areas.

There is no doubt that the process of recovery of damaged and destroyed forest stands due to ice-breaks will be demanding and long-lasting. However, it is of utmost importance to implement the recovery in a qualitative and timely way. Otherwise, if the damage is not recovered on time, i.e. if the sick or damaged trees which attract various pests (e.g. European spruce bark beetle, Decaying fungi) and diseases are not timely removed from the forest, there is a high risk of their spreading on healthy trees. In Slovenia, an additional problem is the ownership structure of forests. Namely, about 80% of the

damaged forests are privately-owned, and a large number of private cadastral plots (around 1.3 million) is complicating the organization and implementation of the extraction and sale of timber material from forests. In order to solve the problem, Slovenia has requested a loan from the European Investment Bank for the establishment of a company on a national level which would deal with the sale of raw material from damaged forest stands. In Croatia, the process of recovery of damaged forest stands started almost immediately after the damage appeared and is currently in its full swing. In Croatia, according to the action plan of the Croatian forests Ltd, the process of recovery should be completed in three years' time. However, the action plan refers only to state-owned forests, while private forests owners have to take care of their own forests.

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